



United States
Environmental Protection
Agency

Office Of Air Quality
Planning And Standards
Research Triangle Park, NC 27711

EPA-454/C-99-001
Volume X, No. 1
Date Feb1999

Table of Contents

New Orleans Inventory Conference	2
Release of the "National Air Pollutant Emission Trends Update, 1970-1997	3
Status of PM _{2.5} Emission Characterization Program	4
Call for Papers: The Emission Inventory: Regional Strategies for the Future	6

New Orleans Inventory Conference A Big Success

By Bill Kuykendal

The Emission Factor And Inventory Group and the Air And Waste Management Association were joint sponsors of the recent conference, "Emission Inventory: Living In A Global Environment" in New Orleans. This was our eighth conference and certainly one of the best. These demographics tell part of the story:

Total attendance: 250

- 30% State/local air agencies
- 25% Consulting
- 20% EPA
- 15% International
- 10% Industry

We had excellent balance, as you see, with another strong turnout from the international community. Thirteen countries were represented besides the United States – Egypt, Thailand, Canada, Mexico, the Netherlands, the Philippines, China, the United Kingdom, Norway, France, Malaysia, Spain, and Lebanon. Of these, Egypt, Thailand, Malaysia, and Mexico sent several participants each. On the domestic side, we were particularly pleased with the strong EPA contingent from the Office Of Mobile Sources.

The two and one-half day conference included eleven sessions covering these topics:

The Emission Inventory as a Policy Tool and SIP preparation
Air Toxics
Emission Inventory Quality
Area Source Inventory Methods
Mobile Sources
Emission Projections
Energy Emissions and Greenhouse Gases
Data Management
Source-specific Emission Inventories
Preparing Emissions Data for Modeling
PM and Regional Haze Issues



Paul Stolpman, Director of EPA's Office Of Atmospheric Programs, was outstanding as keynote speaker, tying in the relevance of emission inventories to EPA's national objectives. Paul made a particularly impressive connection to the highly successful acid rain program. Also, our two luncheon speakers, Devra Davis of the World Resource Institute and Wayne Draper from Environment Canada, each did an excellent job of helping us see "outside the box" and showing how our emissions data really can have an impact on understanding and solving major global environmental problems. In spite of the attractions in New Orleans, our technical sessions were very well attended, and again, much was accomplished through "hallway conversations".

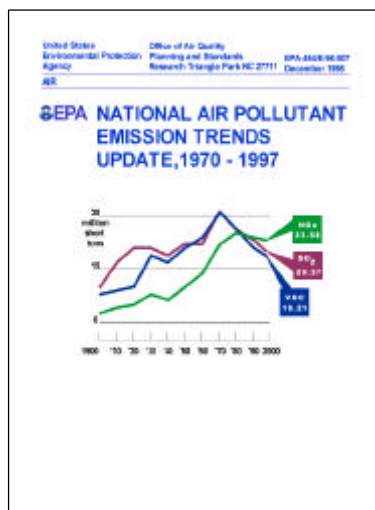
It'll be hard to top the New Orleans meeting, but we're already planning our ninth conference, which will be held October 25 - 28 in Raleigh. We're excited about keeping the ball rolling, particularly as we move toward both implementing the new standards and increasing emphasis on air toxics.

RELEASE OF THE "NATIONAL AIR POLLUTANT EMISSION TRENDS UPDATE, 1970-1997"

By Sharon Nizich

The 1998 Emission Trends Update was loaded to the CHIEF website on February 10, 1999. This document is an on-line publication, thus no printed copies are available. The URL address is:

<http://www.epa.gov/ttn/chief/trends97/emtrnd.html>



Last year, the US EPA did not publish the National Air Pollutant Emission Trends Report. We did update the National Emission Trends (NET) database by making improvements to some previous estimates and adding 1997 values. The update is comprised of a discussion of new methodologies, a brief discussion of the greenhouse gas inventory, new toxics data, an appendix (A) listing summary tables that includes biogenic emissions, and an appendix (B) listing particulate matter and ammonia emission estimating methods.

Enhancements this fiscal year include incorporating States' 1996 periodic emission inventory (PEI) data that is sent to us by March 1st, revising the PM and SO2 point source emission estimates, projecting emissions to 1998, providing more information on greenhouse gas emissions, and revising non-road estimates with the latest version of the Office of Mobile Source's NONROAD Model. We are also planning an upload to the website that will enable the user to retrieve county level data. Look for the complete report and county-level information on the Trends webpage in December! - Sharon Nizich.

STATUS OF THE PM_{2.5} EMISSION CHARACTERIZATION PROGRAM

By Tom Pace

State and local planners, inventory and modeling staffs are concerned about the availability and quality of tools to characterize PM_{2.5} emissions. Tools do exist, but the quality for most source categories varies from good for some precursor gases (SO₂ and NO_x) to fair to poor for many PM_{2.5} direct emissions categories.

More importantly, they are asking whether or not the tools can be improved in time for States to produce acceptable PM_{2.5} inventories for the State Implementation Plan (SIP) Development? The answer to this question is: "it depends." It depends on resource availability for the Emission Factor and Inventory Group (EFIG) and our partners to develop and improve the tools, factors, and activity databases and to use these to improve the National Emissions Trends (NET) inventory. The NET will be used by many States as the "starting point" for a SIP development inventory. It also depends on State and local Agencies and State Consortia to target their resources to improve tools, factors, activity databases and emission estimates for specific locations, source categories, and pollutants that could benefit from additional work at the local level.

The goal is for the NET to evolve into an inventory that is adequate for PM_{2.5} SIP development. Of course, it must be ready in time to perform the modeling analyses needed to develop the SIPs. This is an achievable goal; however, both EFIG and the States must use their resources wisely if there is to be any hope of meeting it. Careful planning and adequate resources are essential.

EFIG has done some preliminary planning and the State and local Agencies are being brought into the process through the Standing Air Emissions Work Group (SAEWG) of the STAPPA and ALAPCO. The source categories contributing the most to PM_{2.5} (either directly or as precursor gases that form fine particles in the atmosphere) are being reviewed for factor and activity data availability, quality, and their potential for improvement. The following table shows the pollutants that contribute to PM_{2.5} and the key source categories emitting each pollutant. In some cases, the emission factor will be the "weak link", in others, it will be the activity data. In some cases, both will need significant improvement and in others, the whole methodology may need to be "overhauled".

Resources remain a problem. EFIG was expecting \$3M in additional funding in FY99 for PM_{2.5} emission factors, tools, and the development of activity databases. This was to be the first of several years of such an increase in funding. Unfortunately, the funding increase is deferred until next year. The delay will lower the quality of the inventory used to develop the "early SIPs" which may lead to more uncertainty in the strategy and perhaps to last minute adjustments to the SIPs as the tools and then the inventories are finally improved.

However, the job is still doable if adequate resources are available to both EFIG and the State and local agencies. Improving the PM_{2.5} Emissions Inventory will be a "team" effort. As a minimum, the States, State Consortia, EFIG, ORD, OMS, USDA, DOE and the industrial

Key PM_{2.5} Source Categories

DIRECT EMISSIONS	PRECURSOR EMISSIONS	
<p><u>Carbonaceous</u>^{a, b}</p> <ul style="list-style-type: none"> ▪ Residential Wood Burning ▪ Managed Burning ▪ Non-Road Mobile ▪ Wildfires ▪ Residential Waste Burning ▪ On Road Mobile ▪ Power Gen Coal ▪ Boilers (Oil, Gas) ▪ Boilers (Wood) <p><u>Crustal/Metal</u>^b</p> <ul style="list-style-type: none"> ▪ Fugitive Dust ▪ Mineral Prod Ind ▪ Ferrous Metal 	<p><u>SO_x</u>^c</p> <ul style="list-style-type: none"> ▪ Power Gen (Coal) ▪ Power Gen (Oil) ▪ Boilers (Coal) ▪ Boilers (Oil) ▪ Pulp and Paper <p><u>NO_x</u></p> <ul style="list-style-type: none"> ▪ On Road Mobile (Gas, Diesel) ▪ Non-Road Mobile (Diesel) ▪ Power Gen (Coal) ▪ Boilers (Gas) ▪ Residential (Gas, Oil) ▪ Mineral Prod Ind 	<p><u>NH₃</u></p> <ul style="list-style-type: none"> ▪ Animal Husbandry ▪ Fertilizer Application ▪ On Road and Non Road ▪ Wastewater Treatment ▪ Boilers <p><u>VOC</u>^d</p> <ul style="list-style-type: none"> ▪ Biogenics ▪ Solvent use ▪ On Road (Gas) ▪ Storage and Trans ▪ Residential (Wood) ▪ Petro Industry ▪ Waste Disposal

NOTE: Categories in **BOLD TYPE** are most important.

- a Includes organic particles, elemental carbon and condensable organic particles
 b Impact of carbonaceous emissions on ambient PM_{2.5} to 10 times more than crustal emissions impact
 c Includes SO₂ and SO₃ and H₂SO₄ condensable inorganics
 d Contributes to formation of secondary organic aerosols

Call for Papers

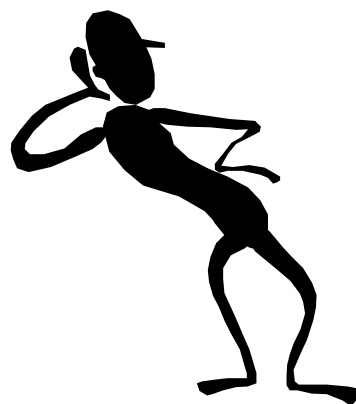
The Emission Inventory: Regional Strategies for the Future

The Emission Inventory: Regional Strategies for the Future will be held October 25-28, 1999 at the Sheraton Capital Center in downtown Raleigh, North Carolina. This is the ninth annual international symposium on emission inventories sponsored by the Air & Waste Management Association and the U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Emission Factor & Inventory Group. Papers presented at the conference may also be submitted to the A&WMA for publication in the peer reviewed Journal of the Air & Waste Management Association.

The technical program committee is particularly interested in papers that relate to the improvement of the emission inventory process and utilization of emissions data in national and regional control strategies. Also of interest are papers related to the industrial experiences and concerns with inventories of air pollution emissions and the methods used to estimate emissions. This conference will provide a useful forum for exchange of ideas and information on the use of emission data between industry, the U.S. EPA, state agencies, and the public. Topics from emission estimation methods to data management will also be covered.

Papers will be presented from the following topic areas covering criteria and regional haze pollutants and their precursors, air toxics, ammonia, and greenhouse gases:

- Area Sources
- Mobile Sources
- Air Toxics
- Ammonia Emissions
- Emission Factors for Point Sources
- Greenhouse Gases
- Source Specific Inventories
- Quality Assurance for Emission Inventories
- Inventory Preparation for Air Quality
- Modeling
- Predictive Emissions Modeling
- Projections
- Data Management
- Particulate Matter Monitoring
- Emissions/Monitoring Relationships



Continuing education courses and an exhibit of related products and services will be held in connection with the conference technical program.

Platform and poster presentations are invited. Send (by e-mail, mail, or fax) a 200-400 word abstract by April 2, 1999, to the Technical Program Chair: Roy Huntley, c/o Sally Dombrowski of the U.S. Environmental Protection Agency, MD-14, Research Triangle Park, NC 27711, Tel: (919) 541-3269, Fax: (919) 541- 0684, e-mail: dombrowski.sally@epa.gov. Include a complete mailing address, telephone and fax numbers, e-mail address, and an indication of whether platform or poster presentation is preferred. Unless otherwise noted, the first author listed will be assumed to be the primary author and will be the main contact for conference correspondence.

Info CHIEF's Most Frequently Asked Questions

**Call (919) 541-5285 or email info.chief@epamail.epa.gov
if you have questions!**



**The CHIEF Newsletter
Volume X, No. 1
Winter 1999**

The CHIEF Newsletter is produced quarterly by the Emission Factor and Inventory Group; Emissions, Monitoring, and Analysis Division; of EPA's Office of Air Quality Planning and Standards. Its purpose is to enhance communication within the emission factor and inventory community by providing new and useful information and by allowing for the exchange of information between and among its readers. Comments on the Newsletter and articles for inclusion in it are welcome and should be directed to Emission Factor and Inventory Group (MD-14), US EPA, Research Triangle Park, NC 27711; telephone (919) 541-3269.

The contents of The CHIEF Newsletter do not necessarily reflect the views and policies of the Agency, neither does the mention of trade names or commercial products constitute endorsement or recommendation for use.